Patent Application No. 10/043,698
Amdt. Dated February 23, 2009
Reply to Office Action dated September 22, 2008

Docket No. MET2.PAU.02

Amendments to the Claims:

This listing of claims will replace all prior versions of claims in the application:

Claim 1 (currently amended): A method ~~of determining a television viewer's viewing habits,~~ comprising:

selecting a plurality of demographic groups to associate viewers with;

recording a viewer's monitor behavior with data item variables including watched channel, watching start time, and at least one of watching date and watching duration;

associating a particular demographic group of the plurality of demographic groups with the viewer;

from a server-side system, inputting historical data information regarding demographic information tagged to the viewer for the viewer's demographic group;

inputting preferred program guide information for the demographic group; and

at a client-side system, associating the program guide information with the viewer's monitor behavior and defining therefrom a knowledge base with demographic group cluster information of the viewer in terms of statistical state machine transition models.

Claim 2 (previously presented): The method according to claim 1, wherein defining the knowledge base comprises calculating a parameterized transition matrix defining the viewer's viewing habits, the parameterized transition matrix containing information of program transitions initiated by the viewer, and wherein the row number and the column number of the element represent the first and the second states.

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Claim 3 (previously presented):   The method according to claim 2, further comprising defining at least two concurrent transition matrices including a channel matrix and a genre matrix.

Claim 4 (previously presented):   The method according to claim 2, further comprising defining the transition matrix as a two-dimensional matrix with transitions from television channels to television channels in temporal form.

Claim 5 (previously presented):   The method according to claim 1, further comprising providing feedback information with the viewer's monitor behavior by recording a click stream.

Claim 6 (previously presented):   The method according to claim 1, further comprising parameterizing the viewer's monitor behavior with a pseudo hidden Markov process.

Claim 7 (previously presented):   The method according to claim 18, further comprising defining the double random process with a plurality of dimensions, and determining parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title.

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Claim 8 (currently amended):   A computer-readable medium encoded with a

plurality of processor executable instructions for implementing a function of:

selecting a plurality of predefined demographic groups, the demographic groups defined

by viewing monitor information including watch date, watch start time, watch duration and

watch channel, and associated demographic information to associate a plurality of viewers with;

associating a particular demographic group of the plurality of demographic groups with

each viewer based on monitor behavior;

capturing state transitions by defining monitor behavior in a plurality of statistical state

machine families each representing viewing behavior of the particular demographic

group;

at a client-side system, combining the statistical state machine families into global

statistical state machines defined in a global probability density function;

updating and reinforcing the global probability density function upon determining that a

given probability function has a higher confidence level than a previous probability density

function; and

outputting a global profile based on the global probability density function, wherein the

global profile is suitable for determining programming content of a television server for classes

of viewers.

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Claim 9 (previously presented):   The computer-readable medium according to claim 8, wherein the state transitions represent a television viewer's monitor behavior and the statistical state machines are selected from the group consisting of watched channel, watching start time, and at least one of watching date and watching duration.

Claim 10 (previously presented):   The computer-readable medium according to claim 8, wherein the global profile represents demographic cluster information of a viewer in terms of a statistical state machine transition matrix.

Claim 11 (previously presented):   The computer-readable medium according to claim 8, wherein the state machines are defined in a parameterized transition matrix defining the viewer's viewing habits, the transition matrix comprising an element indicating information of a program transition initiated by the viewer.

Claim 12 (previously presented):   The computer-readable medium according to claim 11, wherein the parameterized transition matrix is one of at least two concurrent transition matrices including a channel matrix and a genre matrix.

Claim 13 (previously presented):   The computer-readable medium according to claim 11, wherein the parameterized transition matrix is a two-dimensional matrix with transitions from television channels to television channels in temporal form.

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Claim 14 (previously presented): The computer-readable medium according to claim 8, further comprising instructions for parameterizing the viewer's monitor behavior with a pseudo hidden Markov process.

Claim 15 (previously presented): The computer-readable medium according to claim 8, further comprising instructions for defining a double random process with a plurality of dimensions, and determining parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title.

Claim 16 (previously presented): The computer-readable medium according to claim 10, further comprising instructions for:

at the client-side system, associating program guide information with the viewer's monitor behavior and defining therefrom a knowledge base with demographic cluster information of the viewer in terms of statistical state machine transition matrices.

Claim 17 (previously presented): The method according to claim 1, wherein the data items have a probability function with a confidence level, the method further comprising:

updating the historical data information upon determining that a given data item has a probability function with a higher confidence level then a previous data item.

Claim 18 (previously presented): The method according to claim 6, wherein the pseudo hidden Markov process is a double-random process.

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Claim 19 (previously presented):   The method according to claim 18, further comprising:

defining a low level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction among the active behavioral clusters.

Claim 20 (previously presented):   The computer-readable medium according to claim 14, wherein the pseudo-hidden Markov process is a double-random process.

Claim 21 (previously presented):   The computer-readable medium according to claim 20, further comprising:

defining a low-level statistical state machine modeling a behavioral cluster and a top-level statistical state machine with active behavioral clusters and an interaction among the active behavioral clusters.

Claim 22 (previously presented):   The method according to claim 2, wherein the parameterized transition matrix is in a temporal form.

Claim 23 (previously presented):   The method according to claim 2, wherein the parameterized transition matrix includes a first matrix for TV watching activities and a second matrix for TV channel surfing.

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Claim 24 (previously presented): The method of claim 1, wherein the statistical state machine transition models employ a parameterized transition matrix, and wherein the transition matrix comprises an element indicating a transition from a first state to a second state, and wherein each of the first and second states is indicated by one of a row and a column of the transition matrix.

Claim 25 (previously presented): The computer readable medium of claim 8, wherein the instructions further comprise describing the state transitions in a parameterized transition matrix.

Claim 26 (previously presented): The computer readable medium of claim 25, wherein the transition matrix comprises an element indicating a transition from a first state to a second state, and wherein each of the first and second states is indicated by one of a row and a column of the transition matrix.

Claim 27 (new): The method of claim 1, wherein each of the plurality of demographic groups are defined by viewing monitor information including watch date, watch start time, watch duration and watch channel, and associated demographic information.

Claim 28 (new): The method of claim 27, wherein the associating the particular demographic group of the plurality of demographic groups with the viewer is based on the viewer's monitor behavior.

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Claim 29 (new):   The method of claim 28, wherein the viewer's monitor behavior is past monitor behavior.

Claim 30 (new):   The method of claim 1, wherein each of the plurality of demographic groups is selected based on predetermined criteria.

Claim 31 (new):   A method comprising:

selecting externally generated groups defined by demographics associated with a plurality of past viewer's monitor behavior;

recording a current viewer's monitor behavior with data item variables including watched channel, watching start time, and at least one of watching date and watching duration;

associating a particular group of the externally generated groups with the current viewer based on the current viewer's monitor behavior;

from a server-side system, inputting historical data information regarding demographic information and monitor behavior tagged to the viewer for the viewer's particular associated group;

inputting preferred program guide information for the particular associated group; and

at a client-side system, associating the program guide information with the viewer's monitor behavior and defining therefrom a knowledge base with associated group cluster information of the viewer in terms of statistical state machine transition models.